

Ordering LANCE data

LANCE is part of the Earth Observing System Data and Information System (EOSDIS) and provides near-real-time capabilities for applications, operational agencies and researchers. To find out more information about data products available through LANCE and how to order these data, please visit:

<http://lance.nasa.gov>

National Aeronautics and Space Administration



LANCE

Land Atmosphere Near-real-time Capability for EOS

Products based on science algorithms available within 3 hours of observation

Instrument	Product Categories	Average Latency
AIRS	Radiances, Temperature and Moisture Profiles, Clouds and Trace Gases	75–140 minutes
AMSR-E	Brightness Temperatures, Soil Moisture, Rain Rate, Ocean Products, Snow Water Equivalent, Sea Ice	80–135 minutes (Latency excludes daily products)
MLS	Ozone	75–140 minutes
MODIS	Radiances, Cloud/Aerosols, Water Vapor, Fire, Snow Cover, Sea Ice, Land Surface Reflectance, Land Surface Temperature	90–145 minutes (Latency excludes daily Land Surface Reflectance)
OMI	Ozone, Sulfur Dioxide, Aerosols	100–165 minutes (Latency excludes Level 3 Ozone)

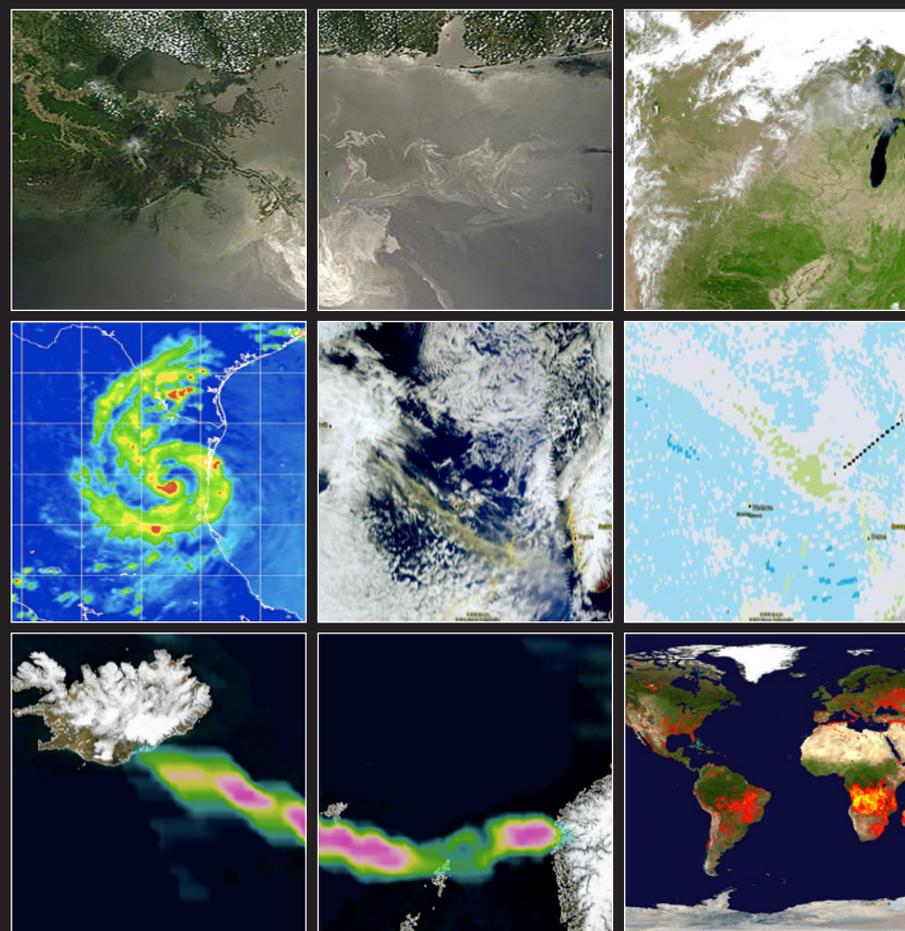
AIRS - Atmospheric Infrared Sounder (Aqua)

AMSR-E - Advanced Microwave Scanning Radiometer-EOS (Aqua)

MLS - Microwave Limb Sounder (Aura)

MODIS - Moderate Resolution Imaging Spectroradiometer (Terra and Aqua)

OMI - Ozone Monitoring Instrument (Aura)



AIRS

AMSR-E

MLS

MODIS

OMI

For questions regarding user registration, see the User Registration FAQs or email:

esdis-users@lists.nasa.gov

www.nasa.gov

LANCE

Land Atmosphere Near-real-time Capability for EOS

LANCE provides access to near real-time NASA data (<3 hours from observation) from AIRS, AMSR-E, MLS, MODIS, and OMI instruments onboard NASA's Earth Observing System (EOS) satellites- Terra, Aqua and Aura. Both operational agency end-users and researchers utilize these products for a wide range of applications ranging from weather forecasting and climate prediction, to monitoring and management of natural hazards such as fires, drought, and floods.

Applications

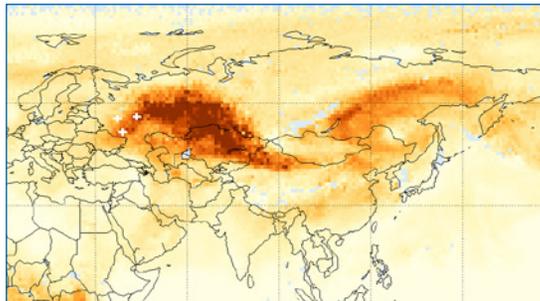
Fire Information for Resource Management System (FIRMS)

The Fire Information for Resource Management System (FIRMS) capability within LANCE integrates remote sensing and GIS technologies to deliver global MODIS hotspot/fire locations and burned area information to scientists and resource managers around the World. The fire information is provided in a number of data formats as well as by email alert and can be displayed by an online interactive Geographic Information System.



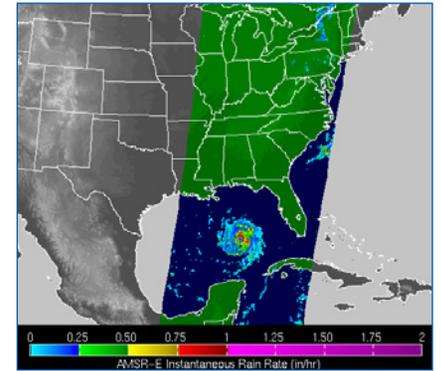
Air Quality

Near-real-time AIRS data from LANCE is used to track propagation of toxic gases, like Carbon Monoxide (CO), from massive fires (e.g., Russia in the summer of 2010). Data are made available in format suitable for 3D browsers, such as Google Earth, where it can be easily combined with other layers - states, cities, and other places of interest. Thus, information on CO concentrations and propagation can be viewed by anyone holding interest in air quality. Health officials and people with physical conditions can freely view the images within couple of hours of data acquisition.



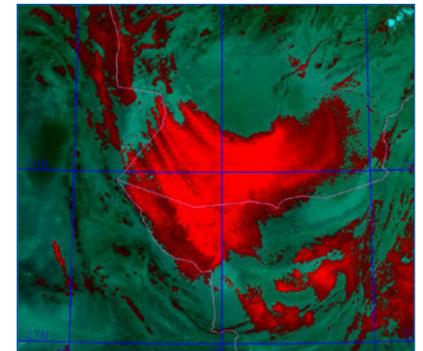
Weather Forecasting

Near-real-time AMSR-E data are used at the NASA Short-term Prediction Research and Transition (SPoRT) center to generate rain rate and sea surface temperature products, which are supplied to National Weather Service forecast offices for use in regional weather forecasts. This image is of Hurricane Katrina the day before making landfall on the Louisiana and Mississippi Gulf Coasts. Images like this and others are sent in near-real-time to the Southern Region NWS Forecast Offices.



Dust Detection Over Land

Near-real-time MODIS images created using LANCE are being used by agencies with the Department of Defense to monitor and predict dust storms. This information can dramatically improve resource allocation in remote areas as well as to help promote aircraft safety.



Drought Monitoring

Agro-climatic monitoring programs and global food security risks can be monitored using the MODIS LANCE near-real-time data. There are several existing global/regional scale systems in place including a Famine Early Warning System (FEWS NET) which is a multiple-agency effort that reports on drought and food shortages on a daily basis. Data latency for these types of programs is critical to success.

